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jc961 U.S. PTO

(Only for new nonprovisional applications under 37 CFR 1.53(b))

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First Named Inventor or Application Identified

Inventors: Tina M. Nocera, et al.

Invention: Method For Developing Answer-Options To Issue-Questions
Relating To Personal Finance And Investment

Express Mail Label No.

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See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

1. ☒ Fee Transmittal Form
(Submit an original, and a duplicate for fee processing)
2. ☒ Specification [Total Pages]
(preferred arrangement as set forth below)
- Descriptive title of the Invention
 - Cross References to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to Microfiche Appendix
 - Background of the Invention
 - Brief Summary of the Invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
3. ☒ Drawing(s) (35 USC 113) [Total Sheets]
4. Oath or Declaration [Total Pages]
- a. ☒ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 CFR 1.63(d))
(for continuation divisional with Box 17 completed)
[Note Box 5 below]
- i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
5. ☐ Incorporation By Reference (useable if Box 4b is checked). The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

6. ☐ Microfiche Computer Program (Appendix)
7. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
- a. ☐ Computer Readable Copy
- b. ☐ Paper Copy (identical to computer copy)
- c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

8. ☒ Assignment Papers (cover sheet & documents(s))
9. ☐ 37 CFR 3.73(b) Statement ☐ Power of Attorney
(when there is an assignee)
10. ☐
11. ☐ Information Disclosure
Statement (IDS)/PTO-1449 Citations
12. ☐ Preliminary
Amendment
13. ☒ Return Receipt
Postcard (MPEP 503)
(Should be specifically itemized)
14. ☒ Small Entity
Statements(s) Status still proper and desired
15. ☐ Certified Copy of Priority Document(s) _____
(if foreign priority is claimed)
16. ☐ Other: _____

17. If a CONTINUING APPLICATION, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☒ Continuation-in-part (CIP) of prior application No: 09/197,156

18. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label

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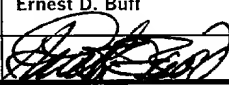
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[illegible]

FEE TRANSMITTAL Note: Effective October 1, 1997 Patent Fees are subject to annual revision.		Application Number		
		Filing Date		
		First Named Inventor	Tina M. Nocera	
		Group Art Unit		
		Examiner Name		
TOTAL AMOUNT OF PAYMENT	(\$)	721.00	Attorney Docket Number	0015-10

METHOD OF PAYMENT (check one)		FEE CALCULATION (continued)				
<p>1. <input type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:</p> <p>Deposit Account Number → <input type="text"/></p> <p>Deposit Account Name → <input type="text"/></p> <p><input type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17 <input type="checkbox"/> Charge the Issue Fee Set In 37 CFR 1.18 at the Mailing of the Notice of Allowance</p> <p>2. <input checked="" type="checkbox"/> Payment Enclosed: <input checked="" type="checkbox"/> Check <input type="checkbox"/> Money Order <input type="checkbox"/> Other</p>		3 ADDITIONAL FEES				
FEE CALCULATION						
1. FILING FEE						
Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid	
101	710	201	355	Utility filing fee	355.00	
106	320	206	160	Design filing fee		
107	490	207	245	Plant filing fee		
108	790	208	395	Reissue filing fee		
114	150	214	75	Provisional filing fee		
SUBTOTAL (1)					(\$) 355.00	
2. CLAIMS						
		Extra	Fee From below	Fee Paid		
Total Claims	34	20 =	14	X	9 = 126.00	
Independent Claims	8	3 =	5	X	40 = 200.00	
Multiple Dependent Claims			0	X	0 = 0.00	
Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description		
103	18	203	9	Claims in excess of 20		
102	82	202	40	Independent claims in excess of 3		
104	270	204	135	Multiple dependent claim		
109	82	209	40	Reissue independent claims over original patent		
110	18	210	9	Reissue claims in excess of 20 and over original patent		
SUBTOTAL (2)					(\$) 326.00	
		*Reduced by Basic Filing Fee Paid				
		SUBTOTAL (3)				
		(\$) 40.00				

SUBMITTED BY:				Complete (if applicable)	
Typed or Printed Name	Ernest D. Buff			Reg. Number	25,833
Signature				Deposit Account User ID	
	Date	11/28/00			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Tina M. Nocera, et al. Group Art Unit: Not Yet Assigned
Serial No: Not Yet Assigned Examiner: Not Yet Assigned
For: **METHOD FOR DEVELOPING ANSWER-OPTIONS
TO ISSUE-QUESTIONS RELATING TO PERSONAL
FINANCE AND INVESTMENT**
Attorney Docket No.: 0015-10

245 South Street
Morristown, NJ 07960
November 21, 2000

Assist. Commissioner For Patents
Washington, D.C. 20231

Sir:

**VERIFIED STATEMENT (DECLARATION) CLAIMING
SMALL ENTITY STATUS UNDER 37 CFR 1.9 (f) AND 1.27 (c)**

I hereby declare that I am an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF SMALL BUSINESS CONCERN: Nocera & Associates, LLC
ADDRESS OF SMALL BUSINESS CONCERN: 66 Union Avenue
Nutley, New Jersey 07110

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 1.21.12 and reproduced in 37 CFR 1.9 (d) for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in the application identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights in the invention must file separate verified statements averring to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9 (c) if that person made the invention or by any concern which would not qualify as a small business concern under 37 CFR 1.9 (d), or a nonprofit organization under 37 CFR 1.9 (e).

Each person concern or organization having any rights in the invention is listed below:
No such person, concern or organization exists.

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. [37 CFR 1.28 (b)]

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING:

Tina M. Nocera

TITLE OF PERSON IF OTHER THAN OWNER:

President

ADDRESS OF PERSON SIGNING:

66 Union Avenue
Nutley, NJ 07110

SIGNATURE:

Tina M. Nocera

DATE:

11/28/2000

**METHOD FOR DEVELOPING ANSWER-OPTIONS
TO ISSUE-QUESTIONS RELATING TO
PERSONAL FINANCE AND INVESTMENT**

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CROSS-REFERENCE TO RELATED APPLICATIONS

This is a continuation-in-part of United States application Serial No.
09/197,156, filed November 20, 1998.

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BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to information systems for creating and distributing
syndicated content; more particularly, to a database of questions and answers covering a
myriad of personal finance and investment topics in a broadly accessible virtual manual
format.

2. Description of the Prior Art

In today's complex world, individuals face a myriad of financial issues: budgeting
income; being adequately insured; establishing and maintaining sound credit; saving and
investing for their own retirement; planning their estate; and saving for a variety of life
goals. These financial challenges are not restricted to those having more limited monetary
means—they exist along the entire socio-economic continuum. In a March 2000 Gallup
poll, women ranked financial issues as the most pressing personal concern in their lives—
ahead of family, health, time and stress, and equal rights.

Investors presently have more investment options and more responsibility for their retirement accounts. A menu of 401k plans, IPOs, UGMA plans, and IRAs has become part of our daily experience. Investment periodicals, television shows, and newspaper articles add to our barrage of financial-information overload, and history's longest-lasting bull market has lured many to hope and expect instant riches. Ads and seminars promise extraordinary profits - sometimes promoting speculative, risky schemes. Financial anxiety, financial illiteracy, and financial ill-preparedness are not new issues.

The financial services industry has increasingly recognized the need for people to successfully manage their personal finances. Financial information and advice is presently available on a broad spectrum of topics distributed in many different mediums. As the availability of research data and financial information increases, especially for those with an Internet connection, the average investor is subjected to financial information overload. Another problem presented by the overwhelming quantum of such information is the tendency for presentation of singular points of view, typically the author's or the brokerage firm for which the author works. Literature references which are comprehensive enough to address the numerous issues important to individuals, and which offer a variety of views on these important issues are virtually non-existent owing to the myriad of variables involved in financial planning.

There remains a need in the art for a method and means for providing individuals with access to multi-faceted points of view for the personal finance and investing issues that are most important to them. Presently, most financial advice comes from a firm having a particular viewpoint or the intention to promote a particular product. There are few sources that offer help for educational purposes only, and those that do, provide polarized opinions on the subject. Yet, who can predict with certainty whether the stock market will

rise or fall? The value of a stock purchase recommendation resides in the analysis and a comparison thereof with explanations provided by those with differing views. Financial decisions are generally based on opinions, not clear facts. Individuals would benefit significantly from a financial information source that provides a broad spectrum of views, sets forth the rationale for the opinion or the recommendation reached, and applies the rationale to specific fact patterns having particular relevance to salient factors affecting investment decisions.

SUMMARY OF THE INVENTION

The present invention provides a method for providing to a user answer-options to issue-questions relating to personal finance and investment. In one aspect, the method comprises the steps of (1) identifying a plurality of topics relating to personal finance and investment based upon predetermined criteria; (2) developing and recording a plurality of issue-questions directed to each of the identified personal finance and investment topics; (3) developing and recording an expert opinion for each issue-question; (4) developing and recording a reasonable-investor opinion for each issue-question; (5) selecting a topic; (6) selecting an issue-question directed to the selected topic; and (7) communicating a plurality of answer-options to the selected issue-question, the plurality of answer options comprising at least one expert opinion and one prudent-investor opinion and being communicated in writing, or electronically. The present invention may be used with or without the aid of a general-purpose computer.

In another aspect of the present invention, there is provided a method comprising the steps of (1) identifying a plurality of topics relating to personal finance and investment based upon predetermined criteria; (2) developing and recording a plurality of issue-

questions directed to each of the identified personal finance and investment topics; (3) developing and recording a plurality of expert opinions for each issue-question; (4) selecting a topic; (5) selecting an issue-question directed to the selected topic; and (6) communicating a plurality of expert answer-options to the selected issue-question, the plurality of answer-
5 options comprising at least two expert opinions that are substantially diverse and being communicated orally, in writing, or electronically.

In yet another aspect of the present invention, information concerning personal finance and investment is developed and stored as at least one database (obviously, more than one database may also be used in connection with the present invention) in a memory
10 storage device of a general purpose computer as first and second data sets containing topics and issue-questions related thereto. The information is accessed from these data sets by selectively combining an issue-question with at least one topic to produce a primary information product. A program means associated with the data sets modifies the primary information product by imposing thereon a plurality of answer-options to the selected issue-
15 question. Each of the answer-options comprises at least one expert opinion and at least one prudent-investor opinion stored in a third and fourth data set. The imposition of answer-options on the information product produces a polycentric information product, which is readily communicated to the investor-user of the present invention by oral, written or electronic means.

20 Advantageously, when practicing the method of the invention, the user benefits from the various views of the experts and prudent-investors, and can consider the answer-options provided in direct, focused response to the specific issue-question that the user has identified as being important. This tailored response is highly advantageous to a specific user or audience such as investors, members of investment clubs and others interested in

managing their personal finances in that it filters out extraneous information, and provides focused guidance in the form of answer-options in a highly efficient manner. Through consideration of numerous variables, the method of the present invention serves to (i) identify the topics most important to a specific user; (ii) prioritize these topics; and (iii) develop specific issue-questions and answer-options directed to each of the prioritized topics. Such a multi-faceted approach provides both professional (expert) and practical (prudent-investor) advice in the form of a polycentric, response tailored to a specific issue-question.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood and further advantages will become apparent when reference is made to the following detailed description of the preferred embodiments of the invention and the accompanying drawings wherein:

Fig. 1 is a flow diagram of the method of the present invention;

Fig. 2 is a block diagram of a general purpose computer on which the present invention may be operated; and

Fig. 3 is a block diagram of the components of a program series developed in accordance with the method of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is directed to a method of providing a variety of answers to the numerous questions and issues related to personal finance and investment. The present invention may be tailored to a specific user or audience, for example, parents of young children, retirees, baby-boomers, etc. The present invention can identify the topics most

important to a specific user, prioritize these topics, and develop specific questions directed to each of the prioritized topics. The specific questions or issue-questions, are then presented to a panel of experts including CFAs/CFPs, market equity analysts, SEC registered brokers/salespeople/traders, economists, and bankers, and the like, to elicit
5 answers from each expert for each issue-question. The issue-questions can also be presented to a panel of prudent-investors, referred to herein as “prudent-investors”, who each offer their opinion to the issue-question based on personal experience. The result is a plurality of perspectives or answer-options directed to each issue-question that are communicated to the user. The answer-options are preferably comprised of at least one
10 expert opinion and at least one prudent-investor opinion. In an alternate embodiment, the answer-options comprise at least two expert opinions having a substantial degree of diversity. The user thus benefits from the various views of the experts and prudent-investors or, in the case of the alternate embodiment, from the divergent views of diverse experts, and can consider the answer-options provided in addressing the specific issue that the user has
15 identified as being important (based upon market research and other statistically gathered data).

The present invention may be used for production of a product series that includes, but is not limited to, television shows and video-tapes, CD-ROMs, computer-based training (“CBT”) products, print publications including a newsletter, web pages (i.e., the world-wide
20 web), and other now available or hereafter developed communication media and technology.

As used herein, the term “investor” refers to sole or joint investors, members of investment clubs, and other persons interested in management of their personal finances. The term “prudent-investor” refers to persons identified as having actual hands-on, practical experience with specific financial investment issues, situations, and the like, regardless of

whether that person is actively and regularly engaged in investment matters, or maintains an active portfolio of investment properties. The term “expert”, as used herein, means a person qualified to advise or represent other persons or entities concerning financial matters, and actively and regularly engaged for consideration in the personal finance and investment industry. The terms “user”, “investor”, “user-investor” and “viewer” are used herein to identify persons benefiting from the present invention.

Referring Fig. 1 of the drawings, there is shown a flow diagram of a preferred embodiment of the present invention. A specific group of topics relating to personal finance and investment are first identified. The topics may include: (1) estate planning, (2) banking, (3) college planning, (4) insurance, (5) investing – technical analysis, mutual funds, specific fixed income and equity investments, asset allocation, (6) mortgages, (7) credit, debt and bankruptcy, (8) retirement planning – IRAs/Keogh, (9) real estate, (10) trust planning – UGMA, (11) tax planning, (12) car finance, and (13) using brokers, financial planners, insurance agents. It will be obvious to persons skilled in the art that these topics are merely illustrative, and that the topics considered by the present invention are limited only by the imagination of a routinier in the art. The group of topics may be identified using surveys of families, baby boomers, retirees, college students focus groups, statistical data (i.e., data gathered by a third party directed to personal investment and finance and various other information and data gathering sources and means.

Once the group of topics is identified, specific issue-questions directed to each topic are developed. These issue-questions may be developed using sources and means similar to those used for identification of the topics described above. The specific issues an intended audience will have for the various topics depends on factors such as audience composition (i.e., retiree, young family etc.), location (i.e., city, suburb, country, etc.), socio-economic

class, and other factors. Thus, the specific questions must be developed by considering these and other variables so that the information provided by the present invention in the way of answer-options (described in more detail below) is meaningful and useful for the desired target audience, whether it be a college student, retiree, young business professional or whomever.

The issue-questions are then presented to a panel of experts in the investment community. The panel may include CFAs/CFPs, market equity analysts, SEC registered brokers/salespeople/traders, economists, bankers, and other professionals having financial investment experience and knowledge. Each expert provides an answer to the issue-question, thus providing a plurality of theoretical expert opinions as answer-options on the specific issue-question. Providing various perspectives on a single subject that is particularly important to the intended audience as previously identified by the development of topic groups and issue-questions, has heretofore not been available from a single source, as is the case with the present invention. Previously, persons having interest in learning more about personal investment and finance questions must consult numerous sources of information to obtain the same quantum of information as provided by the present invention. In addition, current information sources lack objectivity since most financial information providers have a product or service to sell. Further, the information generated as answer-options to issue-questions in accordance with the present invention is specific, and focused, in that it primarily addresses those issues identified as being the most important to the target audience.

The issue-questions are also presented to a panel of prudent-investors, herein referred to as "prudent-investors", who bring their real-life, hands-on, practical experience to bear on the issues most important to the audience. Each of the prudent-investors provides

an opinion on the issue-question; collectively, the prudent-investors provide a diverse variety of views and perspectives as answer-options on each issue-question. Thus, the expert panel provides primarily theoretical views and the prudent-investors provide primarily practical views on the questions and issues identified as most important by the target audience. The opinions of the expert panel and prudent-investors are provided as a plurality of answer-options that may be considered by the audience or user.

For the broadcast, videotape and DVD media, the issue-questions can be presented to the expert and prudent-investor panels in the form of a question and answer interchange conducted by a moderator. The experts and prudent-investors can individually respond to the issue-question thus providing a plurality of answer-options that expose the audience to a plurality of views on a question that has particular relevance and importance to them. This question and answer format can be repeated until the topic is thoroughly explored.

In a preferred embodiment, and with reference to Fig. 3, the present invention is used in the development of a program series 100 that can be broadcast on radio, television, cable, pay-per-view, and the like, downloaded to wireless devices such as personal digital assistants (PDAs), recorded on video-tape or digital-video disk (DVD), or stored on CD-ROM for use on a general purpose computer. The program series 100 includes a number of individual program units 110, with each program unit 110 addressing a specific topic 120 and fully exploring a broad range of issue-questions directed to that topic 120. For this embodiment, a program series 100 developed in accordance with the present invention will be comprised of a plurality of program units 110, each directed to a specific, single topic 120. Alternatively, the program series 100 may be comprised of a plurality of program units 110 that address a number of topics.

In a most preferred embodiment, the present invention is used in connection with the development and production of a television (network, cable, or otherwise) program format that regularly provides the described specific information. An example of a typical program topic is Internet IPO Investment Risks. Issue-questions concerning the topic are posed to
5 guests on the show who are professional and practical consultants. The live audience votes on the responses to issue-questions offered by the consultants using a keyboard device, via telephone call in, or other well-known methods.

For non-broadcast mediums such as CD-ROM and CBT, the present invention operates in connection with and on a general-purpose computer 10, as depicted in Fig. 2.
10 The computer 10 has a processor including a central processing unit (CPU) 20, an input device 30 such as a keyboard or mouse (including those integrally provided with laptop computers), a memory storage device 40 such as a hard disk unit (HDU), random access memory (RAM), or CD-ROM, and an output device 50 such as a computer monitor, printer, or modem. While the present invention operates in connection with and on a general-
15 purpose computer, it will be obvious to persons skilled in the art that the computer 10 in connection with which the present invention is used may contain additional components and peripheral devices.

Once the topic groups are identified, they are stored in the computer memory, preferably in a database on the HDU or CD-ROM. The issue-questions are also stored on
20 the HDU or CD-ROM. The issue-questions are still presented to the expert panel and to the prudent-investor panel to develop the various answer-options (i.e., plural, oftentimes substantially diverse opinions) on the issue-questions. These answer-options are recorded and also stored in a database on the HDU or CD-ROM. Using the input device 30, a user of the present invention first selects a specific topic from a list of topics, and then an issue-

question from a list of “frequently asked questions” (i.e., FAQs) directed to the selected topic. The computer 10 retrieves the expert opinions and prudent-investor opinions for the selected issue-question and communicates these opinions to the computer output device 50 as answer-options for consideration by the user. The user may then select another topic, or
5 another issue-question directed to the previously selected topic. The answer-options may be presented in a variety of formats including text only, text and non-animated graphics, text and animated graphics, text and video, video and audio, and various other formats.

Obviously, not every user is interested in the same topics and questions. Issues important to a retiree will not be the same issues that are important to a young professional.

10 The present invention provides an input mask that consists of criteria entered by the user and that identifies the specific needs and interests of that particular user. The input mask will consider the criteria and operate as a filter or overlay to the various data stored in the database. Thus, user-specific information can be retrieved to provide an information product in the form of answer-options that are directed specifically to the user. Information
15 entered by the user, including the user’s age and geographic location, are used to comprise the input mask so that only information directed to the specific user’s personal and finance investment needs are provided. The user may also select which answer-options should be provided, e.g., all answer-options, substantially diverse experts only, prudent-investors only, etc. Thus, the information product provided by the present invention is customizable by the
20 user and may be tailored to address those issues identified by the user as the most important. The user may enter criteria for the input mask either before or after selecting a specific issue-question.

While the user may identify a specific issue, he/she may not know what questions to ask. The input mask of the present invention may operate as a query tool to assist the user

in identifying specific questions. For example, a young professional may query issues involved in obtaining life insurance. The answer-options for this user are distinctly different than those for the retiree. Thus, the user can enter selection criteria as a variable criterion for the input mask and the present invention will consider this information when querying the stored information (e.g., issue-questions, diverse expert opinions and prudent-investor opinions) to retrieve only that information directed to this specific user's concern with an investment need.

As an alternative to selecting an issue-question, the user may also submit a free-form question in ordinary English or other languages specified. This method is more convenient for the user who may have difficulty identifying appropriate keywords for a search. Another advantage of this approach is that retrieval results using the present invention can be more relevant than those generated by well-known keyword matching techniques. These techniques simply scan text to identify keywords and retrieve documents that contain the keywords.

The present invention resolves the problem posed by conventional keyword scan and matching techniques, and enables the user to enter a free-form question, by using a contextual search engine. In a preferred embodiment, the user enters a free-form question, by using a combination of Bayesian inference and information theory to determine the context of the question asked and to use this derived context to generate an appropriate topic or issue-question.

Bayes' theorem gives the rule for updating belief in Hypothesis H (i.e. the probability of H) given additional evidence E , and background information (context) I . In other words, Bayes' theorem reasons back from events to causes. We can derive the probability of a particular cause, given the probability of a particular effect.

This is expressed by the equation:

$$p(H|E,I) = p(H|I) * p(E|H,I)/p(E|I)$$

The left-hand term, $p(H|E,I)$ is called the posterior probability, and it gives the probability of the hypothesis H after considering the effect of evidence E in context I . The $p(H|I)$ term is just the prior probability of H given I alone; that is, the belief in H before the evidence E is considered. The term $p(E|H,I)$ is called the likelihood, and it gives the probability of the evidence assuming the hypothesis H and background information I is true. The last term, $1/p(E|I)$, is independent of H , and can be regarded as a normalizing or scaling constant. The information I is a conjunction of (at least) all the other statements relevant to determining $p(H|I)$ and $p(E|I)$. New pieces of evidence can be factored into the calculation. As each new piece of evidence is factored in, its effect is conditional on all the previously considered evidence.

The context search engine in the processor of the present invention applies Bayes' theory to identifying the context of a free form question. The engine treats words within the question as abstract symbols with mathematical relationships based on probability. When the search engine identifies a cluster of related words, it also derives the probability that the "cause" or reason for the cluster, is the presence of a particular context.

The context search engine also "spiders" web sites with the same focus as the identified issue-question. Spidering supplies the user with a deeper and richer answer-option, that the user can peruse, based on the user's individual interest. The themes identified in spidered documents are also used to generate categories for the documents, providing a directory of hyperlinks.

Use of the foregoing methods will occasionally retrieve answer-options some of which may be at odds with a user's investment objectives. These answer-options are not useful or could prevent achievement of investment goals. In one embodiment, in order to retrieve answer-options which are most in accord with a user's investment goals, an investment profile is developed for the user. This is accomplished by asking questions which reveal those investment issues of importance to the user. A sample question would be:

Which of the following statements best describes your feeling about investment risk?

- i. I don't want to lose my original investment and would only select investments that have a low degree of risk. I may have a small percentage in others that have a higher degree of risk that may yield greater returns.
- ii. I prefer a balanced mix (50 in low risk and high risk)
- iii. I want an aggressive mix of investments - -with an emphasis on investments that have a higher degree of risk that may yield greater returns.
- iv. I am looking for a big payoff and will take a high degree of risk for a high return.

Based on the user's answers, the user's investment goals can be discerned. Because answer-options are also coded to indicate the preferences they reflect, answer options reflecting the user's preferences can be identified, and only these are displayed to the user. For example if a user chooses the answer 'A', the user would be coded "C" for

Conservative and would only see opinions that were also coded “C” and reflected this preference.

In addition the current invention also filters answer-options so that clearly different choices are presented to the user. For example, the question “I’m a retiree and am thinking about investing in IPOs of Internet companies. Is this too risky?” could evoke the following answer options:

- a. Speculative equity plays should not be considered for short term investments.
- b. Retirees may like the gamble but unless the total investment can be lost without blinking an eye, Internet IPOs are best left to other investors.

For all intents and purposes, these answer-options are identical in content. The current invention identifies answer-options that are very similar or identical, and only displays one of them. In this way, the user is always provided with at least three opinions, practical and professional, which state significantly different points of view and the user’s time is not wasted viewing duplicate answers.

In a first process, a copy-editor scans the answer-options, and based on a set of predetermined criteria, identifies very similar answer-options as duplicate answers. For example, all answer-options which instruct the user-investor to not invest in Internet IPOs are identified as duplicate answers. Only one of the duplicate answers is displayed.

Similar answers can differ as to tone or suggestions offered and manual overview provides the ability to identify these significant subtleties. For example, given the following question, “At 29 years, I am a beginner investor and am very cautious. I have just put 50% of my money into a long-term bond fund and 50% into a money market fund. Is that a prudent investment strategy?” Three of the four respondents expressed that a more aggressive

strategy made more sense. However even at the summary level the answer-options vary considerably, as indicated below.

Response 1: Your portfolio should be weighted heavily into equities. I would suggest 75% into some sort of major market index, e.g. S&P fund and 25% in a municipal
5 bond fund.

Response 2: I'll assume you need 50% in money market to keep liquid and because you're cautious. Take the remaining 50% and spread it over several stocks of blue chip companies that you like.

Response 3: At your age, consider an aggressive growth strategy for at least 50% of
10 your portfolio. Invest in funds where you see potential for the future, e.g. technology, biotechnology. Liquidity is not your issue now...growth is.

For many questions, it is not be possible to immediately provide a set of answer options. This is particularly the case where questions are highly specific and therefore, could not have been anticipated. An exception report identifies all questions without answer-
15 options as well as answers that have not been approved for display due to error, inappropriateness, or other problems. All questions are date/time stamped. Unanswered questions are submitted to consultants in accordance with an on-call schedule. Via email, consultants are notified of the date/time return requirements for the answers.

Consultants respond to the questions via email within a reasonable time period after
20 a question has been submitted. Typically, the time period for consultant responses to questions submitted is about one second to 70 hours, more preferably about 1 hour to 60 hours and even more preferably about 10 to 50 hours, and most preferably about 30 to 40 hours. The responses are staged, i.e. sorted in order of time submitted with the oldest being

addressed first, and reviewed by a team of copy editors for grammatical and other errors. The reviewed responses are then loaded into the database.

Within a reasonable time after a question has been submitted, as defined in the preceding paragraph, the user receives an email containing a link. The link reconnects the user to the original site and notifies the user that answer-options to the user's question are presently available on the site.

Although not yet available, interactive television will provide another medium for the implementation of the present invention. Interactive television will provide a means by which viewers can interactively pose questions to the experts and to the prudent-investors, who will, in turn, provide a plurality of answer-options in the form of their respective opinions on the issue-question. In this way, information provided by the present invention is specifically directed to the viewer, significantly increasing its relevance, importance, and preference.

Information provided in accordance with the present invention may also be communicated via a customized newsletter. Specific information is used to provide to the user information specifically directed to issues for that particular user's personal finance and investment interests. The newsletter also includes the numerous opinions of the experts and prudent-investors that provide various answer-options to the user. As discussed hereinafter in greater detail, the newsletter response forms, in effect, a composite opinion containing both professional and prudent-investor advice components that are polycentric and tailored to the specific issue-question presented by the user.

By taking into account the variables that determine which topics and issues are most important to the investor such as, location (i.e., city, suburb, country, etc.), socio-economic class of the investor.), and by considering these variables when identifying the topic groups

and issue-questions, the present invention provides a method of providing information to a user, viewer, etc. that is specifically directed to their immediate and pressing concerns. In other words, the information provided by the present invention is tailored to its audience. Information of this specificity has heretofore been unavailable. Significantly, the information provided by the present invention is polycentric, in that it provides numerous viewpoints (i.e., answer-options) on the topics and issues that have been identified as being most important to the target audience.

Over time, as the database continues to grow and content in all topic areas becomes substantial. As a result, content related to insurance, estate planning, and tax planning may be extracted to form separate content databases that will be licensed to niche and affinity groups. These self-generating databases will supply ready-made content, at far less cost, than hiring a copy-editor to provide the content. In this way, the current method and system provides a dynamic, growing database that is self-adapting, and continually developing facility for furnishing answer-options to issue-questions in content areas tangential to personal finance or even unrelated to the topic. For example, retirees, aging baby boomers, and investors are affinity groups who will also be served by the present invention. These groups share the same need as investors for customized advice.

Having thus described the invention in rather full detail, it will be recognized that such detail need not be strictly adhered to but that various changes and modifications may suggest themselves to one skilled in the art, all falling within the scope of the invention, as defined by the subjoined claims.

CLAIMS

What is claimed is:

1. A method of providing to a user a plurality of answer-options
to an issue-question relating to personal finance and investment, in a computer
having a processor, an input device, a memory storage device and an output device,
said method comprising the steps of:

(a) identifying and storing in the memory storage device a
plurality of topics relating to personal investment and finance ;

(b) developing and storing in the memory storage device a
plurality of issue-questions directed to each of the stored topics;

(c) developing and storing in the memory storage device an
expert opinion for each issue-question;

(d) developing and storing in the memory storage device a
prudent-investor opinion for each issue-question;

(e) selecting, by the user via the input device, a topic;

(f) selecting, by the user via the input device, an issue-question
directed to the selected topic; and

(g) providing to the computer output device a plurality of answer-
options to the selected issue-question, the plurality of answer-options
comprising at least one expert opinion and one prudent-investor opinion.

2. A method as recited by claim 1, wherein said step (a) comprises
gathering data relating to personal finance and investment from a plurality of sources

including survey data and focus group data and storing the gathered data in the memory storage device.

3. A method as recited by claim 1, wherein said step (b) comprises gathering data relating to personal finance and investment from a plurality of sources including survey data and focus group data and storing the gathered data in the memory storage device.

4. A method as recited by claim 1, wherein said step (c) comprises presenting each issue-question to an expert and storing the expert's answer in the memory storage device.

5. A method as recited by claim 1, wherein said step (d) comprises presenting each issue-question to a prudent-investor and storing the prudent-investor's answer in the memory storage device.

6. A method of providing a plurality of answer-options to an issue-question relating to personal investment and finance, said method comprising the steps of:

(a) identifying a plurality of topics relating to personal investment and finance based upon predetermined criteria;

(b) developing and recording a plurality of issue-questions directed to each of the identified personal investment and finance topics;

(c) developing and recording an expert opinion for each issue-question;

(d) developing and recording a prudent-investor opinion for each issue-question;

5 (e) selecting a topic;

(f) selecting an issue-question directed to the selected topic; and

(g) communicating a plurality of answer-options to the selected issue-question, the plurality of answer-options comprising at least one expert opinion and one prudent-investor opinion and being communicated orally, in writing, or electronically.

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7. A method as recited by claim 6, wherein said step (a) comprises gathering data relating to personal finance and investment from a plurality of sources including survey data and focus group data.

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8. A method as recited by claim 6, wherein said step (b) comprises gathering data relating to personal investment and finance from a plurality of sources including survey data and focus group data.

20 9. A method as recited by claim 6, wherein said step (c) comprises presenting each issue-question to an expert.

10. A method as recited by claim 6, wherein said step (d) comprises presenting each issue-question to a prudent-investor.

11. A method as recited by claim 6, wherein said step (g) further comprises broadcasting the plurality of answer-options using a television medium.

5 12. A method as recited by claim 6, wherein said step (g) further comprises recording the plurality of answer-options on videotape.

10 13. A method as recited by claim 6, wherein said step (g) further comprises recording the plurality of answer-options on a DVD.

14. A method of providing to a user a program a polycentric information product concerning personal investment and finance, in a computer having a processor, an input device, a memory storage device and an output device, said method comprising the steps of:

15 (a) developing and recording in a database on the memory storage device a first data set containing a plurality of topics relating to personal investment and finance;

(b) developing and recording in said database a second data set containing a plurality of issue-questions directed to each of said topics;

20 (c) developing and recording in said database a third data set containing an expert opinion for each issue-question;

(d) developing and recording in said database a fourth data set containing a prudent-investor opinion for each issue-question;

(e) selecting from said database, by the user via the input device, a topic;

(f) selecting from said database, by the user via the input device, an issue-question pertinent to at least one selected topic, said selected topic and issue-question comprising a primary information product;

(g) modifying said primary information product by imposing thereon a plurality of answer-options to the selected issue-question, the plurality of answer-options comprising at least one expert opinion and one prudent-investor opinion to thereby produce a polycentric information product; and

(h) communicating to the user via the computer output device said polycentric information product by oral, written or electronic means.

15. A method as recited by claim 14, wherein said step (a) comprises gathering data relating to personal finance and investment from a plurality of sources including survey data and focus group data and storing the gathered data in the memory storage device.

16. A method as recited by claim 14, wherein said step (b) comprises gathering data relating to personal investment and finance from a plurality of sources including survey data and focus group data and storing the gathered data in the memory storage device.

17. A method as recited by claim 14, wherein said step (c) comprises presenting each issue-question to an expert and storing the expert's answer in the memory storage device.

5 18. A method as recited by claim 14, wherein said step (d) comprises presenting each issue-question to a prudent-investor and storing the prudent-investor's answer in the memory storage device.

10 19. A method of providing to a user a plurality of answer-options comprised of an expert opinion and a prudent-investor opinion on an issue-question and relating to personal investment and finance, the answer-options, expert opinion, prudent-investor opinion, and issue-questions being stored in a memory storage device of a computer having a processor, an input device, and an output device, said method comprising the steps of:

15 (a) selecting, by the user via the input device, a topic from a list of topics stored in the memory storage device;

(b) constructing an input mask by entering, by the user via the input device, a variable criterion;

20 (c) identifying a plurality of issue-questions that satisfy the variable criterion using the input mask;

(d) identifying a plurality of answer-options to the identified issue-questions; and

(e) providing to the computer output device the plurality of answer-options.

20. A method as recited by claim 19, wherein said step (b) comprises entering, by the user, information specific to the user including the user's investment preferences and geographic location.

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21. A method as recited by claim 1, wherein a copy-editor evaluates each answer-option for content, and eliminates those answer-options with the same content, such that only answer-options which contain unique opinions are displayed to the user.

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22. A method as recited by claim 1, wherein each answer-option is assigned a content code and wherein more than one answer-option has the same content code, only one of the answer-options with the same content code is selected for display to the user.

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23. A method of providing to a user a plurality of answer-options comprised of an expert opinion and a prudent-investor opinion on an issue-question and relating to personal investment and finance, the answer-options, expert opinion, prudent-investor opinion, and issue-questions being stored in a memory storage device of a computer having a processor, an input device and an output device, said method comprising the steps of:

20

- (a) selecting, by the user via the input device, a topic from a list of topics stored in the memory storage device;

- (b) submitting an issue-question in free-form, by the user via the input device;
- (c) editing the issue-question for proper grammar and form;
- (d) constructing a plurality of answer-options to the issue-question;
- (e) loading the answer-options into a database;
- (f) notifying the user, via an email message, within a predetermined time period, that the plurality of answer-options are available;
- (g) providing a hyperlink, within the email message, to link the user to a web page, from which the user submitted the issue-question, and from which the answer-options can be accessed.

24. A method as recited by claim 1, further including the step of assigning a preference code to each answer-option.

25. A method as recited by claim 1, further including the step of asking the user a series of questions, designed to identify the user's preferences, and assigning to the user a preference code.

26. A method as recited by claim 1, further including the step of filtering the answer-options to the selected issue-question, to include only those answer-options coded with the user's preference code.

5 27. A method of providing to a user a plurality of answer-options comprised of an expert opinion and a prudent-investor opinion on an issue-question and relating to personal investment and finance, the answer-options, expert opinion, prudent-investor opinion, and issue-questions being stored in a memory storage device of a computer having a processor, an input device and an output device, said
10 method comprising the steps of:

- (a) selecting, by the user via the input device, a topic from a list of topics stored in the memory storage device;
- (b) submitting a question in free-form, by the user via the input device;
- 15 (c) attempting to match at least one stored issue-question with the submitted question, using in combination Bayesian inference and information theory; and

- (d) where there is a match, providing to the computer output device a
20 plurality of answer-options to the matched issue-question, the plurality of answer-options comprising an expert opinion and one prudent-investor opinion.

28. A method as recited in claim 27 wherein the processor matches the free-form question with the issue-question by identifying a cluster of related words within the free-form question and deriving a probability that a reason for the cluster is the presence of a particular context, the same context that exists within the issue-question.

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29. The method as recited in claim 27 wherein no matched issue-question can be identified, further including the steps of:

- (d) constructing a plurality of answer-options to the submitted question;
- (e) loading the answer-options into a database;
- 10 (f) notifying the user, via an email message, within a predetermined time period, that the plurality of answer-options are available; and
- (g) providing a hyperlink, within the email message, to link the user to a web page, from which the user submitted the issue-question, and from which the answer-options can be accessed.

15

30. A method of providing to a user a plurality of answer-options to an issue-question relating to personal investment and finance, in a computer having a processor, an input device, a memory storage device and an output device, said method comprising the steps of:

- 20 (a) identifying and storing in the memory storage device a plurality of topics relating to personal investment and finance;
- (b) developing and storing in the memory storage device a plurality of issue-questions directed to each of the stored topics;

(c) developing and storing in the memory storage device an expert opinion for each issue-question;

(d) selecting, by the user via the input device, a topic;

(e) selecting, by the user via the input device, an issue-question directed to the selected topic; and

(f) providing to the computer output device a plurality of answer-options to the selected issue-question, the plurality of answer-options comprising a plurality of expert opinions that are substantially diverse and collectively produce a polycentric information product tailored to said issue-question.

31. A method as recited by claim 1, wherein each answer-option is assigned a content code and wherein more than one answer-option has the same content code, only one of the answer-options with the same content code is selected for display to the user.

32. A method of providing to a user a plurality of answer-options comprised of at least two expert opinions on an issue-question and relating to personal investment and finance, the answer-options, expert opinions, and issue-questions being stored in a memory storage device of a computer having a processor, an input device and an output device, said method comprising the steps of:

(a) selecting, by the user via the input device, a topic from a list of topics stored in the memory storage device;

(b) submitting a question in free-form, by the user via the input device;

(c) attempting to match at least one stored issue-question with the submitted question, using in combination Bayesian inference and information theory; and

- (d) where there is a match, providing to the computer output device a plurality of answer-options to the matched issue-question, the plurality of answer-options comprising at least two expert opinions.

33. A method as recited in claim 32 wherein the processor matches the free-form question with the issue-question by identifying a cluster of related words within the free-form question and deriving a probability that a reason for the cluster is presence of a particular context, the same context that exists within the issue-question.

34. The method as recited in claim 32 wherein no matched issue-question can be identified, further including the steps of:

- (h) constructing a plurality of answer-options to the submitted question;
- (i) loading the answer-options into a database;
- (j) notifying the user, via an email message, within a predetermined time period, that the plurality of answer-options are available; and

providing a hyperlink, within the email message, to link the user to a web page, from which the user submitted the issue-question, and from which the answer-options can be accessed.

**METHOD FOR DEVELOPING ANSWER-OPTIONS
TO ISSUE-QUESTIONS RELATING TO
PERSONAL FINANCE AND INVESTMENT**

5

ABSTRACT

Information concerning personal investment and finance is developed and stored in first and second data sets containing topics and issue-questions related thereto. The information is accessed from these data sets by selectively combining an issue-question with at least one topic to produce a primary information product. A program means associated with the data sets modifies the primary information product by imposing thereon a plurality of answer-options to the selected issue-question. Each of the answer-options comprises at least one expert opinion and at least one prudent-investor opinion, stored in third and fourth data sets. The imposition of answer-options on the information product produces a polycentric information product, which is readily communicated by oral, written or electronic means. Advantageously, the method provides to a user a range of focused responses to an investor's questions in a time-efficient manner in order for investors to make prudent investments given their priorities and personal preferences. The polycentric information product may be presented to the user via a computer, television, videotape, digital-video-disk (DVD), CD-ROM, a newsletter, and other oral and written communication means, electronically or otherwise.

Fig. 1

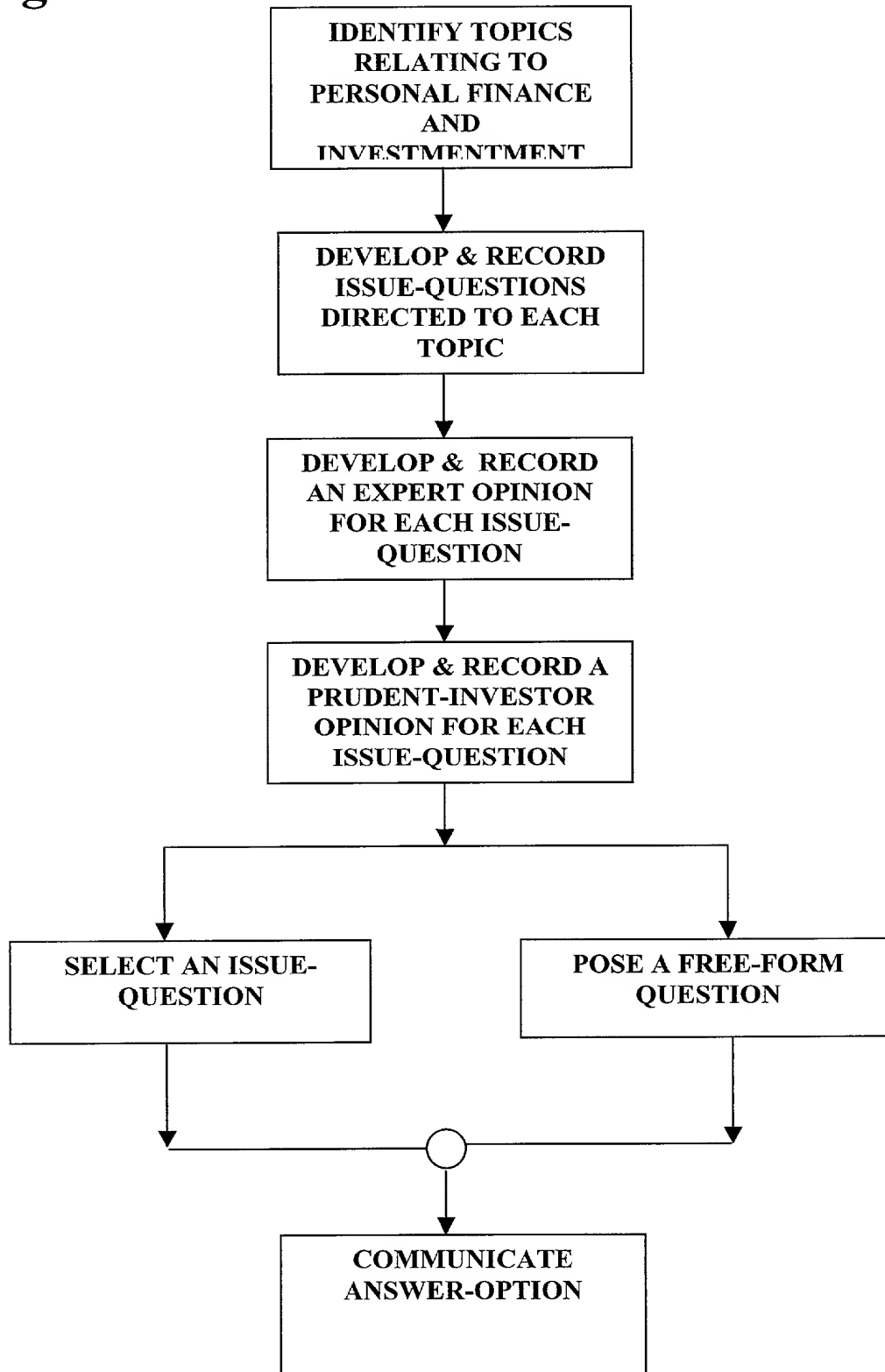


Fig. 2

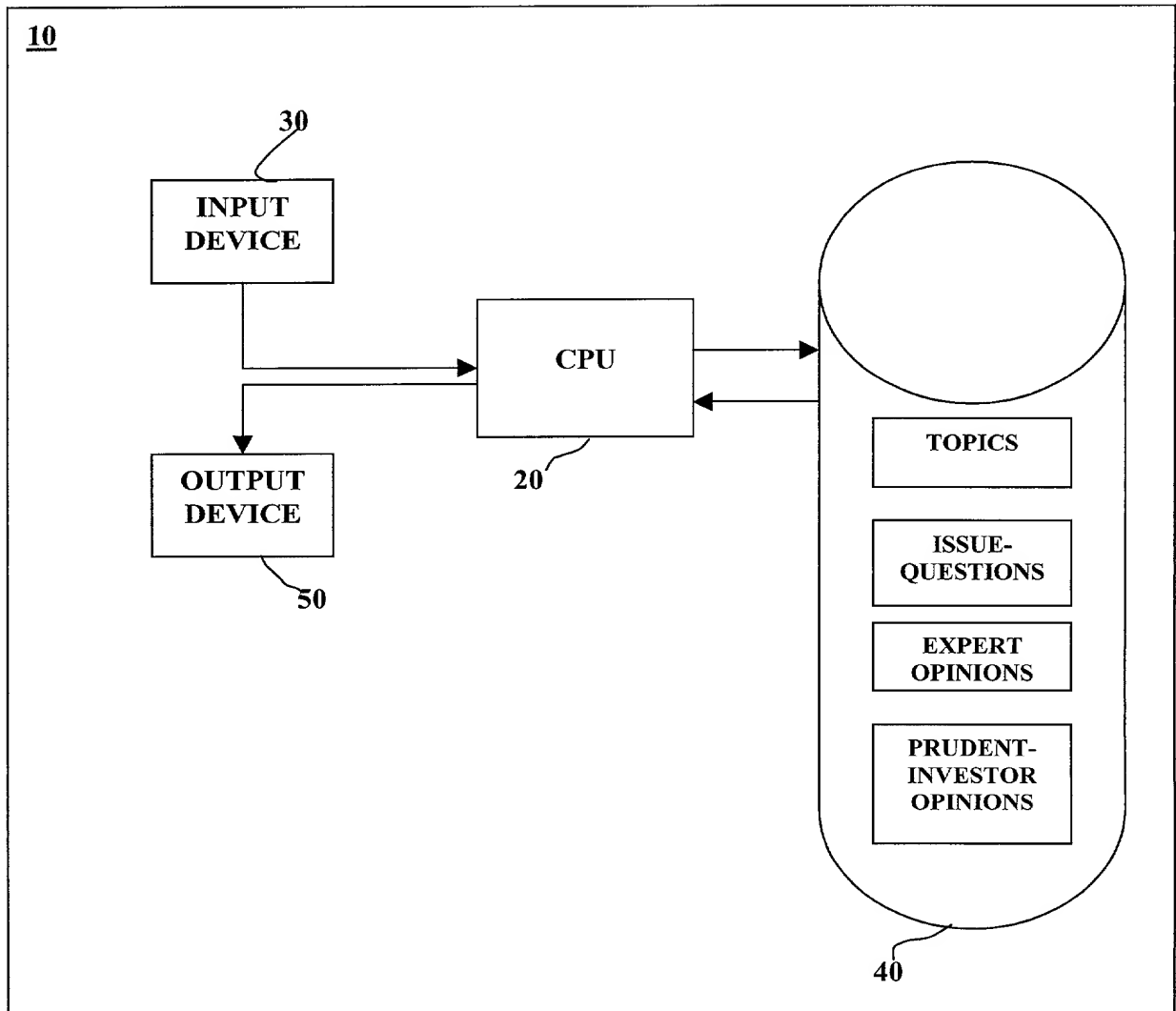
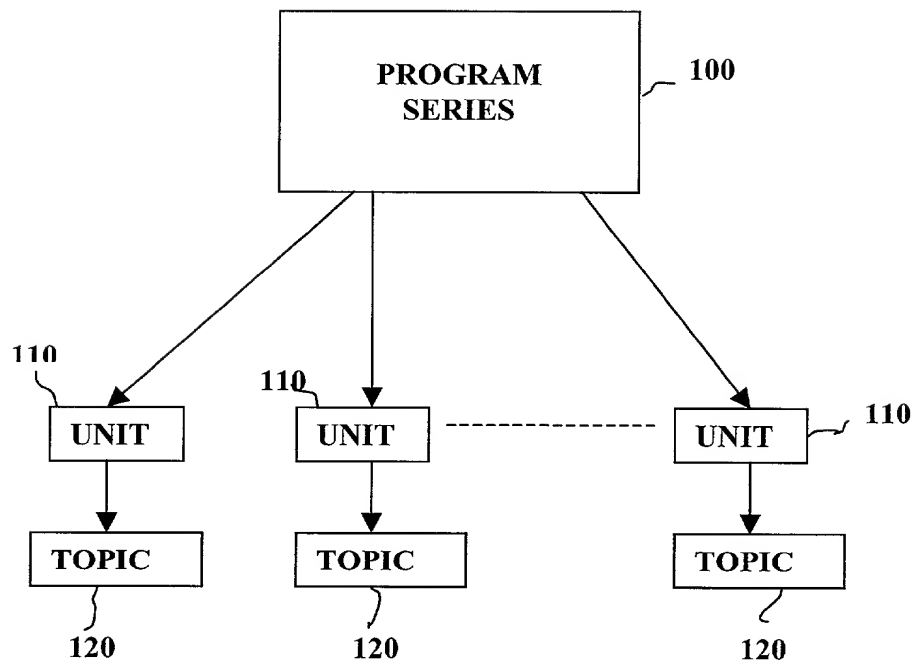


FIG. 3



DECLARATION FOR PATENT APPLICATION SOLE OR JOINT

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention titled:

METHOD FOR DEVELOPING ANSWER-OPTIONS TO ISSUE-QUESTIONS RELATING TO PERSONAL FINANCE AND INVESTMENT

the specification of which is attached hereto.

I HEREBY STATE THAT I HAVE REVIEWED AND UNDERSTAND THE CONTENTS OF THE ABOVE-IDENTIFIED SPECIFICATION, INCLUDING THE CLAIMS.

I ACKNOWLEDGE THE DUTY TO DISCLOSE INFORMATION WHICH IS MATERIAL TO THE EXAMINATION OF THIS APPLICATION IN ACCORDANCE WITH TITLE 37, CODE OF FEDERAL REGULATIONS, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority Claimed

☐
☐

Yes

No

(Number)

(Country)

(Day/Month/Year Filed)

☐
☐

Yes

No

(Number)

(Country)

(Day/Month/Year Filed)

☐
☐

Yes

No

(Number)

(Country)

(Day/Month/Year Filed)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States applications listed below and, INsofar AS THE SUBJECT MATTER OF EACH OF THE CLAIMS OF THIS APPLICATION IS NOT DISCLOSED IN THE PRIOR UNITED STATES APPLICATION IN THE MANNER PROVIDED BY THE FIRST PARAGRAPH OF TITLE 35, UNITED STATES CODE, §112, I ACKNOWLEDGE THE DUTY TO DISCLOSE MATERIAL INFORMATION AS DEFINED IN TITLE 37, CODE OF FEDERAL REGULATIONS, §1.56(a) WHICH OCCURRED BETWEEN THE FILING DATE OF THE PRIOR APPLICATION AND THE NATIONAL OR PCT INTERNATIONAL FILING DATE OF THIS APPLICATION:

09/197,156

November 20, 1998

Pending

(Application Serial Number)

(Filing Date)

(STATUS: Patented, Pending, Abandoned)

(Application Serial Number)

(Filing Date)

(STATUS: Patented, Pending, Abandoned)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected herewith (List name and registration number).

(LIST SENIOR PATENT COUNSEL AND ATTORNEY HANDLING CASE WITH PATENT OFFICE REGISTRATION NUMBERS.)

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DECLARATION FOR PATENT APPLICATION—SOLE OR JOINT (Continued)

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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FULL NAME OF FOURTH JOINT INVENTOR _____

INVENTOR'S SIGNATURE _____ Date _____

RESIDENCE _____

CITIZENSHIP _____

POST OFFICE ADDRESS _____

FULL NAME OF FIFTH JOINT INVENTOR _____

INVENTOR'S SIGNATURE _____ Date _____

RESIDENCE _____

CITIZENSHIP _____

POST OFFICE ADDRESS _____